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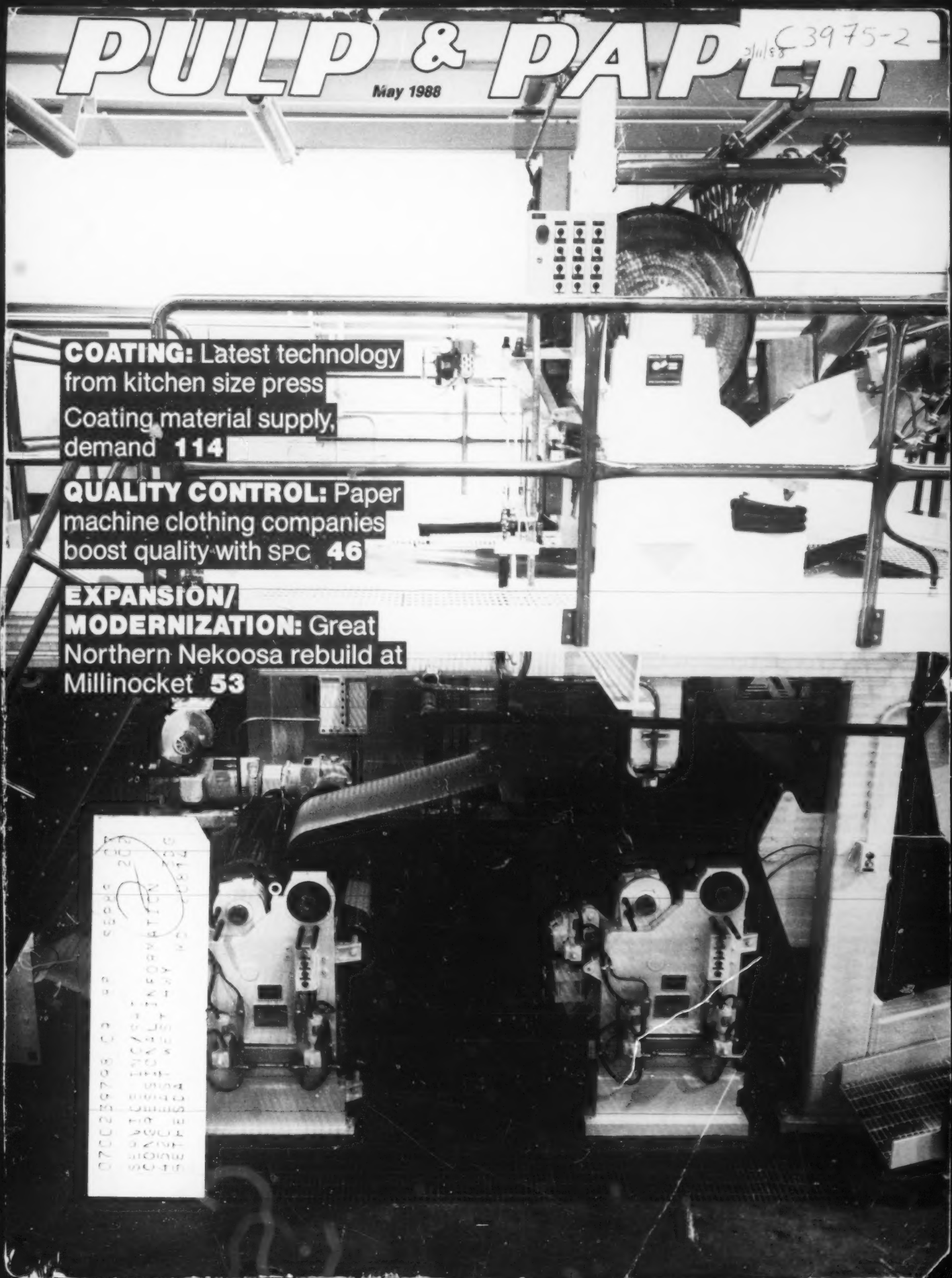
PULP & PAPER

May 1988



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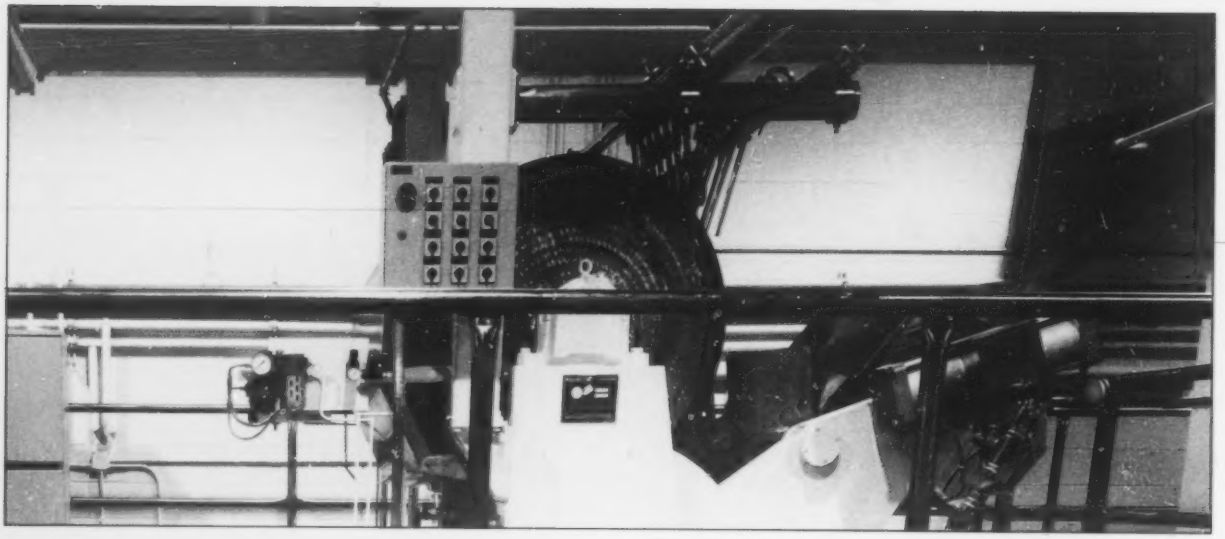

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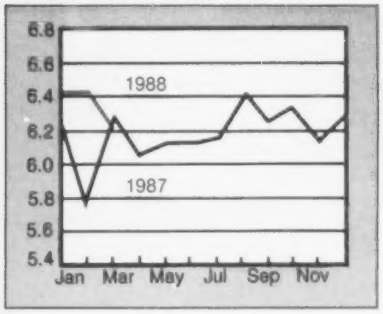
U.S. paper and board production



U.S. production of paper and paperboard totaled 6.2 million tons in February, up 7.5% from a year earlier, according to the American Paper Institute. The month's strong performance was due in part to an extra day, however. On a seasonally adjusted basis, the production trend for February was 75.6 million tpy, up 3.9% from February 1987. The trend rate for paperboard was 38.1 million tpy, up 4.3%, vs 37.5 million tpy for paper, up 3.5%.

Among major grades, coated papers and uncoated free-sheet continued to perform strongly, and unfilled orders were reported to be holding steady at relatively high levels. Newsprint production jumped 5.0%, but U.S. imports of Canadian newsprint dropped off 8.6%. API reports that newsprint inventories at North American mills declined slightly from last year, but that publishers' stocks were up 6.0%. Corrugated box shipments set a new record for the month, and containerboard production for domestic use jumped 7.0% over February 1987.

Canadian newsprint shipments totaled 782,000 metric tons in February, up 3.4% from the same month in 1987. Operating rates climbed to 101%. Woodpulp exports were up 9.0%, to 641,000 tons. Operating rates stood at 97%. ■

	Latest month	(000 short tons)	% change from year ago	Annualized year-to-date (000 short tons)	% change from year ago
PAPER & PAPERBOARD PRODUCTION[1]					
Newsprint	Feb.	479	8.6	5,865	5.0
Uncoated groundwood (s)	Feb.	111	-12.6	1,382	-12.0
Coated paper (s)	Feb.	592	11.9	7,357	11.8
Uncoated free sheet (s)	Feb.	917	9.8	11,138	8.5
Other printing/writing	Feb.	126	12.5	1,455	5.7
Total packaging and other paper (s)	Feb.	434	4.6	5,243	-0.5
Tissue	Feb.	437	5.6	5,298	3.4
Total paper	**Feb.**	**3,094**	**7.7**	**37,738**	**5.5**
Unbleached kraft paperboard	Feb.	1,576	10.7	19,276	8.2
Semichemical medium	Feb.	454	3.4	5,655	2.3
Bleached paperboard	Feb.	359	4.7	4,408	1.3
Recycled paperboard	Feb.	719	4.4	8,812	6.1
Total paperboard	**Feb.**	**3,100**	**7.1**	**38,151**	**6.1**
Total U.S. paper and paperboard output	**Feb.**	**6,202**	**7.5**	**75,889**	**5.8**
PULP, WASTEPAPER & FIBER[2]					
Total U.S. woodpulp production	Jan.	5,271	3.8	63,252	4.2
Market pulp production	Jan.	722	8.1	8,668	9.6
Wastepaper consumption at paper/board mills	Jan.	1,567	9.4	18,808	5.6
Pulpwood consumption (cords)	Jan.	8,223	2.2	98,676	2.2
CONVERTED PRODUCTS STATISTICS[3]					
Corrugated box shipments (billion ft²)	Feb.	24.679	8.2	49.458[6]	4.1
Containerboard inventories at U.S. box plants and mills	Feb. 1	2,659	13.6		
INTERNATIONAL TRADE[2]					
U.S. paper imports (including products)	Jan.	1,033	-3.5	12,403	-3.5
Imports of Canadian newsprint	Jan.	709	-8.6	8,504[6]	-8.7
U.S. paper exports (including products)	Jan.	492	20.0	5,907	20.1
Exports of unbleached kraft linerboard	Jan.	150	-12.8	1,800	-12.8
Exports of woodpulp	Jan.	391	27.8	4,687	27.5
Norscan pulp inventories[4]	Feb. 29	905	4.0		
Norscan pulp operating rates[4]	Feb.	101%	101%	99%	102%
CANADIAN STATISTICS[5] *(reported in metric tons)*					
Total newsprint shipments	Feb.	782	3.4	1,498[6]	-0.5
Operating rates	Feb.	101%	99%	99%	98%
Inventories held by U.S. consumers	Feb. 29	1,482	9.0		
Other paper/board shipments	Feb.	530	5.0	1,053	2.5
Woodpulp shipments (export only)	Feb.	641	9.0	1,254	4.4
Operating rates	Feb.	97%	98%	98%	98%

1. American Paper Institute. 2. API, Bureau of Census, American Pulpwood Assn. 3. Fibre Box Assn., Paperboard Packaging Council. 4. North American/Scandinavian paper-grade market pulp. 5. Canadian Pulp & Paper Assn. 6. Not annualized. (s) = Shipments.

Coated groundwood: Prices climb to near-record levels as buyers seek lightweight coated papers

Grade structure: Coated groundwood paper grades contain at least 10% mechanical pulp, with chemical pulp and fillers making up the balance. Slightly less than 85% of coated groundwood production is No. 5. The rest is the No. 4 grade, which has higher brightness and usually heavier basis weights. No. 5, therefore, is valued for its lighter basis weights and its runability.

Much of the coated groundwood paper is made in the 32-lb to 50-lb basis weight range (25 × 38 in. in reams of 500 sheets), although some 30-lb paper is made and weights can run to 70 lb. Coated groundwood competes against uncoated groundwood papers in many end uses, including magazines, Sunday newspaper supplements, catalogs, newspaper advertising inserts, directories, and direct mail flyers. The coat weight on lightweight coated (LWC) paper may be about 30% of total sheet weight.

Production/capacity: Shipments of coated groundwood papers increased a healthy 9% in 1987 compared with 1986, continuing a strong growth trend that included 1984 and 1985. As in the past, the strongest growth in demand occurred in the commercial printing sector, where shipments of coated No. 5 rose over 20% from 1986 to 1987. This tonnage was used for such items as inserts and flyers. Total shipments of No. 5 rose about 7% in 1987. No. 4 posted an 18% gain.

Machines first brought online in late 1986 began to make their presence felt in 1987, but problems with one paper machine—International Paper Co.'s 200,000-tpy machine in Pine Bluff, Ark.—and stronger demand kept the new capacity from weakening the market as the *anticipation* of that capacity had done in 1986. Other machines supplying new tonnage were Bowater Inc., Catawba, S.C. (197,000 tpy); Consolidated Papers Inc., Wisconsin Rapids, Wis. (180,000 tpy, although the company later converted another coated groundwood machine to coated free-sheet [60,000 tpy]); and Repap Enterprises Inc., New Castle, N.B. (200,000 metric tpy). American Paper Institute said that coated groundwood capacity rose about 8.8% to more than 4.1 million tons in 1987. Capacity is expected to advance just under 2% in 1988 as these machines move to the top of their learning curves.

Outlook: Strong growth from commercial printers and some inventory building will continue to keep markets tight for most of 1988. As fears calm about a recession late in the year or in 1989, an attendant slide in demand is not seen as certain. Magazines also may end 1988 in better shape than in 1987 if they are fully able to take advantage of the Olympics and the U.S. presidential election.

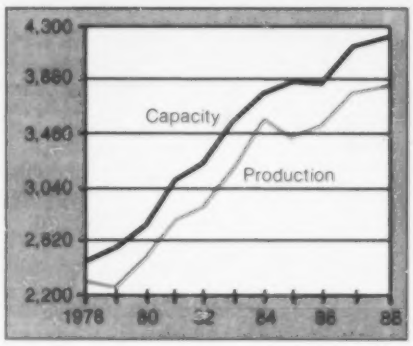
The only new capacity due on-stream in the near future is 200,000 tons of coated groundwood at Blandin Paper Co.'s Grand Rapids, Minn., mill. Another 200,000 metric tons may be announced at Repap Inc.'s Miramichi, N.B., mill, and Weyerhaeuser Co. may be considering a second LWC machine at Columbus, Miss. Although 600,000 to 800,000 tons of new coated groundwood papers will be available in the next few years from Europe and Scandinavia, little of that is expected to end up in the U.S. Possibly more of a threat is new and higher-quality supercalendered (SC) paper capacity, such as the web-sized offset paper (WSOP) from Abitibi-Price Inc.'s Kenogami, Que., mill and SC-A paper from Lake Superior Paper Industries' new mill in Duluth, Minn.

Prices: Coated groundwood prices firmed up throughout 1987 as related grades, especially uncoated groundwoods, also became tight. This came as a welcome change from late 1986, when fears of overcapacity caused prices to plunge. List prices were raised Jan. 1, and as 1988 entered the second quarter most market participants and observers expected an announcement of additional price increases in April or May, which would bring lists to record highs.

The Jan. 1, 1988, increase brought No. 5 40-lb offset in rolls to $840/ton. Another hike in the second quarter probably would add 3% to that.

Historical pricing trends ($/short ton; year-end; except 1988, which is first quarter) for 34-lb rotonews paper are: 1981, $760; 1982, $760; 1983, $782; 1984, $890; 1985, $931; 1986, $860; 1987, $890; 1988, $940. ■

SUPPLY/DEMAND (000 tons)



FORECAST (000 tons)

	1986	1987	1988e
Production	3,478	3,785	3,958[1]
Capacity[2]	3,799	4,132	4,211
Utilization rate	91.6	91.6	94.0
Imports	401	500	510
Exports	36	49	59
Apparent U.S. consumption	3,843	4,236	4,409
lb/capita	31.91	34.85	35.95
GNP ratio	2.07	2.22	2.28

e = Estimate.
1. *P&P estimate.*
2. American Paper Institute.

TOP U.S. PRODUCERS (000 tpy)

	Annual capacity	Market share (%)
1. Champion	689	16.4
2. International Paper[1]	630	15.0
3. Consolidated[1]	550	13.1
4. Bowater	325	7.7
5. Boise[1]	320	7.6
6. James River[1]	295	7.0
7. Blandin	285	6.8
8. Mead	270	6.4
9. Pentair[2]	220	5.2
10. Midtec[3]	193	4.6

Market share of top five companies: **59.7%**

Market share of top ten companies: **89.7%**

Total U.S. capacity (1987): **4.211 million short tons**

1. *P&P* estimate.
2. Niagara of Wis.
3. Kimberly, Wis.

NEWSPRINT

Abitibi, P&W to construct newsprint mill

Parsons & Whittemore Inc. and Abitibi-Price Inc. announced a tentative agreement to jointly build a 220,000-metric-tpy newsprint mill to be located near P&W's Alabama River Pulp Co. bleached kraft market pulp mill in Claiborne, Ala., provided financing is arranged, freight rates are negotiated, and regulatory approval is given.

Under the present plan, Abitibi would run the mill and market the output, while P&W would be responsible for mill design and construction, according to an Abitibi spokeswoman. P&W is owned by the Landegger family, which also owns the St. Anne-Nackawic Pulp & Paper Co. Ltd. market pulp mill in Nackawic, N.B., as well as paper-machinery manufacturer Black Clawson Industries Inc.

The Alabama River mill would be operated separately, although some operations, such as office staff and effluent treatment, might be combined to some extent. The newsprint machine would be supplied with fiber from the mill's own thermomechanical pulp mill, although probably close to 10% of the furnish would consist of kraft pulp from Alabama River. Additional kraft pulp requirements should be taken care of by a $35-million, three-year optimization program under way at Alabama River that would add at least 30,000 tpy of capacity, according to a mill executive. If plans proceed on schedule, the two companies expect the $320-million greenfield mill project to be completed by the end of 1990. The Abitibi spokeswoman said that the 50/50 joint-venture mill's output would be marketed mainly in the eastern U.S., where the company already has "an excellent customer base" supplied mainly by its Canadian mills.

Abitibi, already the world's largest newsprint producer, additionally has a joint-venture newsprint mill (Augusta Newsprint Co.) in Augusta, Ga., in equal partnership with Thompson Newspapers Ltd. Another newsprint mill in Claiborne would raise Abitibi's total newsprint capacity to about 2.12 million metric tpy. ■

Atlantic Packaging to build newsprint/tissue mill

Atlantic Packaging Products Ltd. has started groundwork for a 150,000-metric-tpy recycled newsprint machine and a 35,000-tpy tissue machine on a greenfield site in Whitby, Ont. It expects to be producing tissue there by January 1989 and newsprint by late 1989 or early 1990. The company's expansion into newsprint will be its first, although it already uses secondary fiber at its 120,000-metric-tpy recycled containerboard mill and at its 20,000-tpy tissue mill in Scarborough, Ont.

A company spokesman said Atlantic felt the newsprint mill would be a good investment, particularly with the fiber base being 100% recycled. A close observer noted that the company has been very successful with its recycling efforts. The new mill will require about 65,000 tpy of computer printout and ledger stock for its tissue machine and about 165,000 tpy of old newspapers for its newsprint machine. Both machines are being supplied by Voith. The 300,000-ft² newsprint mill is expected to have a permanent staff of approximately 200 employees.

The company expects that most of the tissue output will be sold in Canada, while most of the newsprint will be exported to the U.S. and overseas. A close observer noted that long-term contracts with newspaper publishers were being negotiated. Details on the financing were not released, other than that Atlantic will own the mill outright and government aid was not expected. ■

Donohue to build C$30-million deinking plant

Donohue Inc. said that its directors had given it tentative approval to construct a deinking facility at its Clermont, Que., mill at an estimated cost of C$30 million. Final approval, however, is subject to grants from the provincial and federal governments.

The plant would use recycled paper from such products as newspapers and magazines for its furnish, reducing the amount of virgin fiber used in making newsprint at the mill, it was noted. Donohue said this would make it the first company in Quebec to recycle wastepaper in a fully integrated mill. The deinking facility will initially produce 50,000 metric tpy.

Gerald Drouin, v.p. of administration for Donohue, said the additional pulping capacity would somewhat offset the mill's purchased chemical pulp requirements as well as provide for additional newsprint expansion in the long term. This is the first time the mill will use recycled fiber in its furnish. ■

Major North American new newsprint expansions.

	Net increase (metric tons)	Startup
U.S.		
Newaprint South	205,000	late 1989
Ponderay Newsprint	180,000	early 1990
Southeast Paper Mfg. Co.	190,000	1990
Abitibi-Price Inc./Parsons & Whittemore Inc.	220,000	late 1990
Total	**795,000**	
Canada		
Finlay Forest Industries Inc.	210,000	spring 1989
CIP Inc.	225,000	fall 1989
Alberta Newsprint	220,000	spring 1990
Atlantic Packaging Corp.	150,000	mid-1990
Great Lakes Forest Products Ltd. (net)	+60,000	early 1991
Canfor Corp./Oji	190,000	1991
Total	**1,055,000**	

Source: *PaperTree Letter*

TISSUE

Irving Tissue to install 60,000-tpy machine

Irving Tissue Co. said it will install a new machine at the tissue mill in St. John, N.B., that it recently acquired from Kimberly-Clark Corp. The company said the new unit will increase the mill's tissue capacity by fourfold, bringing total capacity to about 75,000 short tpy when it starts up in mid-1989. The mill currently operates a 15,000-tpy machine, from which all the output is sold to K-C in the form of parent rolls. A spokesman for Irving Tissue said the supplier for the machine has been chosen but declined to name the company.

Irving Tissue is a subsidiary of Irving Pulp & Paper Ltd., which operates an 825-tpd bleached and semi-bleached kraft market pulp mill next to the tissue mill. A spokesman for the company said it is not yet known by how much market pulp capacity at Irving Pulp will be reduced due to the addition of the new machine because the furnish mix for the new unit is still being decided.

No converting equipment will be installed at the mill. Instead, all of the output from the new high-speed unit will be sold on the market as parent rolls. K-C will continue to contract to buy the output from the mill's existing machine. Irving Tissue employs about 85 people. The expansion is expected to increase employment at the mill by an unspecified amount.

• Canadian producers of consumer tissue are trying to implement price increases ranging from 5% to 10% on consumer tissue products. Sources indicate the 5% price hike attempted last spring did not go through. An increase averaging 7% on commercial tissue was announced early this year as well. This follows a 7% increase in first-quarter 1987 that was largely successful. ■

Fort Howard starts another machine at Savannah River

Fort Howard Corp. started up its second recycled tissue machine at its Savannah River mill in Rincon, Ga., on Mar. 28, exactly one year after the first machine started up. Both machines are Beloit twin-wires with capacity for about 250 tpd of tissue. The mill is converting all of the tissue it produces into bathroom tissue, towels, and napkins to be sold primarily in the commercial and industrial market, although the company declined to say how many converting lines are now operating.

In addition to the second paper machine, the mill installed a Foster Wheeler fluidized bed coal-burning boiler that has been running for a few months. It also has two gas-fired turbine generators that have been online for about 18 months. The mill currently employs about 400 nonunion workers. About 100 more employees will be hired during the summer.

Fort Howard is moving ahead with plans to install a third Beloit tissue machine in what eventually will be a four-machine, 1,500-tpd tissue mill. Fluor Corp. has been awarded a contract worth over $170 million to provide engineering, procurement, and construction services for the new machine, which is slated to start up in December 1989. (Fluor Daniel provided similar services for the first two machines.) Phase three of the mill construction will include installation of a second Foster Wheeler fluidized bed coal-burning boiler as well as additional converting lines. In early 1987 Fort Howard said it would try to sell some of the mill's excess power to a local utility, but such a contract has not yet been concluded.

Meanwhile, the company has announced it has received the necessary permits from Wisconsin's Dept. of Natural Resources to enable it to proceed with the construction of a second dry-former tissue machine at its Green Bay, Wis., mill. Construction of the unit will begin in May and should be completed early next year. The expansion will cost about $20 million. ■

ENVIRONMENT

Widespread testing for dioxin coming soon

The Dioxin Task Group, which was formed by the American Paper Institute and the National Council for Air & Stream Improvement (NCASI), and the Environmental Protection Agency are on the verge of signing an agreement to create a cooperative dioxin testing program. Tests for trace levels of dioxin in bleached pulp, treated effluent, and sludge are expected to begin this spring at 103 mills in the U.S. The mills will pay for these tests. In addition, NCASI will conduct a more in-depth study at about 25 mills to determine what mill processes are responsible for generating the dioxin.

Both of these studies will hopefully reveal why so much variability existed in the results of the five-mill study conducted last year. The dioxin program is expected to use about half of NCASI's budget for 1988.

Product testing. In February 1987, the API and NCASI formed the Dioxin Task Group, which is headed by six top-level industry executives and consists of about 40 other industry managers and scientists. At a speech given at API's annual Paper Week earlier this month, Thomas Norris, president and CEO of P.H. Glatfelter Co. and a task group leader, described the efforts to determine if dioxin is present in paper products with which the average consumer most frequently comes in contact, such as communication papers, disposable diapers, and paper towels.

The task group purchased five samples of each product at grocery stores and ground them up to form one composite sample for testing from each category. A four-step testing plan was developed. First, the group tested each sample for the presence and concentration of dioxin (see table). It then measured how much dioxin was transferred from the product to the user. Next, each sample was assigned a potency for dioxin according to Food & Drug Administration standards. Finally, the health risk of a 70-year lifetime exposure to the product was calculated. Norris

Product test results.

Product	Dioxin/ppt
Disposable diapers	n.d.
Paper towels	3.8
Paper plates	6.4
Barrier food packaging	7.8
Bond paper	13.0
Nonbarrier food packaging	14.0

n.d. = not detectable.
Source: Dioxin Task Group, API/NCASI.

said that all product testing was done by a qualified laboratory and that lifetime use pattern assessments were developed by an outside consultant.

Norris expects all product testing to be completed later this year, at which time results will be made available to the public. Testing on bleached coffee filters is progressing. Coffee is being made in 75-g batches and sent off to laboratories, which have had some trouble developing the right kind of testing apparatus. Work on fatty food packaging is still being done as well.

However, Norris reiterated that paper products made from bleached pulp are safe and that consumers can use them with confidence. Norris also said the risk assessment work establishes that the actual detection numbers shown in the table are "thousands, and, in some cases, practically millions of times lower than the levels at which even our government would have any concern." ■

Champion's Canton mill slates major upgrade

Champion International Corp.'s mill in Canton, N.C., has reached a tentative agreement with the Environmental Protection Agency and the states of North Carolina and Tennessee over the mill's wastewater discharge permit. While the agreement has yet to be finalized, Champion will not have to close the 79-year-old printing paper and bleached board mill, as it said it would do if the EPA finalized certain parts of the draft permit. Instead, Champion estimates that it will have to spend about $150 to $200 million over three years to modernize the mill and bring it into compliance.

A 50% reduction in the color discharged from the mill is called for in the proposed five-year permit. Color discharge will have to be reduced further during periods of drought and low river flow. Champion is currently applying for variances from the water-quality discharge permits of both North Carolina and Tennessee. If this procedure goes smoothly, the EPA is expected to issue a new five-year permit in September.

Champion is still mapping out what kinds of capital expenditures will be required to bring Canton into compliance with the permit, although a spokesman for the company said most of the money will go toward an extensive modernization of the pulp mill. He indicated that it is very probable that the mill will install an oxygen deliquification system.

The Canton mill is Champion's only facility that produces liquid packaging board. The mill has capacity for 248,420 tpy of bleached board on one machine (most of which is turned into milk cartons, with a small amount supplying Champion's ovenable board mill in Belvidere, Ill.) and 333,982 tpy of printing paper on five machines.

The dispute over the mill's discharge permit was initiated by Tennessee because it did not feel its water quality standards for color were being met when the receiving stream (the Pigeon River) crossed the border from North Carolina. Early last year, in a case involving International Paper Co.'s Ticonderoga, N.Y., mill, the Supreme Court ruled that a state cannot charge a mill in a neighboring state with violating its antipollution laws. Observers feel this precedent encouraged Tennessee to compromise in the Canton mill situation. ■

API files suit against EPA over Region 5

The American Paper Institute has filed suit against the Environmental Protection Agency in the Seventh Circuit Court of Appeals in Chicago, Ill., because of the trouble paper mills in EPA's Region 5 have encountered in trying to get their National Pollution Discharge Elimination System (NPDES) permits renewed. Four companies have also joined the suit: Fort Howard Corp., Stone Container Corp., Nekoosa Packaging Inc., and James River Corp.

The suit takes issue with the EPA on two counts. First, it challenges the EPA's objection to the Clean Water Act permits that Wisconsin's Dept. of Natural Resources would have issued to 11 mills in Wisconsin. On Nov. 4, EPA's Region 5 vetoed the DNR's decision to issue discharge permits to 11 paper mills that have been operating without new permits since August 1986. Mills owned by two of the plaintiffs—James River and Nekoosa Packaging—are among these 11.

Second, the suit challenges the EPA's antidegradation policy. This refers in part to the fact that Region 5 has said it will not expand the limits in discharge permits despite the fact that most of the 35 mills in Wisconsin, not to mention the mills elsewhere in Region 5, have increased their capacity since effluent limits were established in 1977-78. An API spokesman said that the association and its member companies are concerned about the national implications of Region 5's position.

This is the second suit filed against the EPA on this subject. Earlier this year some environmental groups filed suit against the EPA for not withdrawing the Wisconsin DNR's permitting authority. ■

LABOR

British Columbia labor talks started Apr. 18

Negotiations between almost all the pulp and paper mills in British Columbia and the two unions that operate those mills—the Canadian Paperworkers Union and the Pulp & Paper Workers of Canada—began Apr. 18.

Contracts at 19 mills in British Columbia will expire June 30 as will contracts at most sawmills in the province. The International Woodworkers Assn. has announced it will seek a one-year contract with a C$2/hour wage increase, among other things. Talks between the IWA and the sawmills began Apr. 25, at which time the Forest Industrial Relations Bureau was expected to respond to the IWA's $2/hour demand.

Bargaining is expected to be difficult because of the industry's current prosperity and the low settlement reached two years ago. The unions are coming off of an agreement which provided for no wage increase in the first year and only C40¢/hour (2.5%) in the second year.

Richard Kelertas, an analyst with McLeod Young Weir in Toronto, Ont., says that "the real sticking point between the unions and the industry will be the issue of contracting out." The industry wants to retain the flexibility to assign subcontracting of some mill maintenance and woodlands activities to nonunion personnel, he notes. The unions, however,

have said that they will not budge on the issue and do not want to give up any more job security.

The contracting out and flexible shift scheduling were the primary issues behind the four-month strike by the IWA in 1986 (which also affected some pulp mills). The strike ended when a royal commission was established to study the issue.

This body issued a report in February 1988. The commission advised the companies that they should not contract out work capable of being performed reasonably by the IWA on a cost-effective basis. The commission also recommended that the IWA be more flexible in its work rules and that companies should have the right to unilaterally schedule shifts subject to certain conditions.

While the report provides some guidelines for negotiating new contracts, it is nonbinding, and sawmill workers have indicated they are not satisfied with the current state of affairs. In October 1987, the IWA membership voted to increase its dues by C$5/month to build a strike fund that will accrue C$200,000 every month.

Kelertas believes that the "likelihood of a moderately long (4- to 6-week) strike is very strong." Such a disruption would cause havoc in the already tight pulp and newsprint markets. British Columbia accounts for 51% of Canada's market pulp capacity and for 16% of its newsprint production. ■

IP, UPIU execs agree; locals evaluating proposals

The first breakthrough in negotiations between International Paper Co. and the United Paperworkers International Union occurred last month. IP's vice president of human resources, David W. Oskin, announced that "discussions between company executives and top officials of the UPIU have resulted in the presentation of contract proposals for the four facilities currently experiencing labor disputes." A spokesman for the UPIU said the locals involved will now begin evaluating the proposals. Both sides have agreed not to release details of the contracts.

UPIU president Wayne Glenn, the union leaders of the striking locals, and members of IP management have been meeting since Mar. 28 in an effort to solve the labor dispute, which involves about 3,400 union members. The dispute started in March 1987, when about 1,200 UPIU members were locked out of IP's Mobile, Ala., mill after contract negotiations broke down. UPIU members are on strike at IP's Jay, Maine, mill; Hammermill's Lock Haven, Pa., mill; and Nicolet Paper in De Pere, Wis.

The strikes began over the issue of premium pay for Sunday and holiday work. Since IP is running all of the struck mills with what it says are permanent replacements, the UPIU is now saying that its first priority is to get the jobs back.

The proposals may smooth the way for Glenn to sign contracts that have been ratified by several UPIU locals. UPIU locals approved company offers at IP's mills in Corinth, N.Y.; Pine Bluff, Ark.; Moss Point, Miss.; and Natchez, Miss., but the international has not signed the agreements. Union workers at IP's mill in Camden, Ark., are working without a contract. Members of the Assn. of Western Pulp & Paper Workers are working under an implemented contract at IP's Gardiner, Ore., mill. The UPIU's contract at IP's mill in Ticonderoga, N.Y., expires June 1, while the one at IP's mill in Vicksburg, Miss., expires Sept. 26. ■

Safety awards

The American Paper Institute recognized five paper companies for outstanding safety performances at the annual Paper Week meeting held in March. The awards were given to mills or converting operations with the lowest accident and injury records, based on OSHA statistics over the past five years.

Procter & Gamble Co. operations won three awards (Albany, Ga.; Mehoopany, Pa.; and Cape Girardeau, Mo.). And Union Camp Corp. also won three awards: one for its Montgomery, Ala., mill and one each for the Converting Dept. and the Retail Packaging Div. at Savannah, Ga. James River Corp.'s converting operations in Newnan, Ga., and the H.P. Smith Div. in Iowa City, Iowa, each won an award. Also recognized were Nekoosa Packaging's Eastern Woodlands Div. and Mead Corp.'s Stevenson, Ala., mill. ■

PACKAGING GRADES

Opposition to plastic packaging on the rise

The way Suffolk County, N.Y., gets rid of its garbage will have significant consequences for producers of plastic grocery bags, foam plastic food containers, and other disposable plastic packaging. On Mar. 29, the Suffolk County legislature approved a bill that would require retail food establishments, including fast-food restaurants and supermarkets, to use biodegradable packaging in the course of doing business. The measure would not affect prepackaged goods shipped into Suffolk County, but it still represents the most comprehensive prohibition against plastic packaging in the country.

More state and local governments are moving ahead this year to restrict, tax, or ban nondegradable and nonrecyclable plastic packaging products and to simultaneously promote recycling. These initiatives reflect growing public concern about reducing solid waste as the country's landfills reach their capacity. Because packaging accounts for a third of all garbage and represents an excessive "throwaway" lifestyle to many Americans, it has become the target of community efforts to reduce the economic and environmental costs of waste management. And because plastics are the fastest growing segment of the packaging industry, are difficult to recycle, and displace at least three times as much landfill space for their weight as other materials, they have become the "bull's-eye of the target," according to one plastics marketing executive.

Dozens of proposals similar to Suffolk County's are pending throughout the country, and this has mobilized environmentalists as well as industry groups. One of the groups testifying at the Suffolk County public hearings was the newly formed Pro-Environment Packaging Council, composed of companies in the paper and paperboard industry. The council's charter members include Champion International Corp., Georgia-Pacific Corp., Gaylord Container Corp., International Paper Co., The Newark Group, Port Townsend Paper Corp., Stone Container Corp., and Union Camp Corp.

"The mission of the council is to call attention to the benefits and uses of paper and paperboard packaging

and to work to ensure that legislation that is pending or will be enacted is in the best interest of our industry," said Samuel Posner, who is president of the council and vice president of retail packaging for Stone Container. He added that although the country's immense solid-waste problems have made the virtues of paper and paperboard packaging more relevant than ever, the council does not intend to "bash" plastics.

Opponents of the Suffolk County bill, including Mobil Corp., Amoco Corp., and local packaging distributors, argue that the measure would not significantly reduce the volume of garbage in the county because disposable plastic packaging accounts for only a small percentage of the waste generated locally. The bill ignores the large volume of plastics used in PET-resin soda bottles, disposable diapers, and other products. Opponents also argue that substituting paper for plastics would lead to higher disposal costs because the paper products weigh six to ten times more than the replaced plastic items.

Despite these considerations, the Suffolk bill is popular with the public and was approved by a vote of 16 to 0, with two abstentions. This worries the plastics industry because "Suffolk has been out front on a number of issues that blossomed nationwide, including bottle-return bills and no-smoking laws," said Kenneth Lane of the Society of the Plastics Industry.

Some plastic packaging producers have responded to the problem by developing degradable products that deteriorate in a few years from bacterial agents or ultraviolet light. Photodegradable, six-pack plastic rings have been successfully marketed in 11 states that require that the rings be degradable. Vons Grocery Co. has recently started using photodegradable plastic grocery sacks in all of its San Diego, Calif., supermarkets, and Amko Plastics Inc. has started selling biodegradable plastic merchandise bags. Amko's degradable plastic film is made from conventional polyethylene resin with a corn starch additive that initiates biodegradation after the bag is disposed of in a landfill. ■

Composition of municipal waste.

	% of waste	Material recovery rate
Paper	37.1%	28.8%
Glass	8.7%	10.0%
Aluminum	0.8%	48.7%
Plastics	7.2%	1.0%
Food waste	8.1%	0.0%
Yard waste	17.9%	0.5%
Other	10.4%	3.0%

Source: Franklin Associates and industry

SPECIALTY PAPERS

Ivex purchases Petratex specialty paper mill

Ivex Corp. of Houston, Texas, has bought Petratex Paper Co.'s 55-tpd specialty kraft paper mill at Peoria, Ill., for an undisclosed amount. Petratex was formed in 1986 to buy the mill from Bemis Co. when it withdrew from primary paper manufacturing. The Peoria mill produces envelope stock; crêpe paper; flour sack paper; and colored, bleached, and natural kraft papers. Under Petratex management, the mill was also using some synthetic pulp supplied by Hercules Corp. for the production of label paper as well as other specialty grades.

Ivex does not currently plan to produce any products using synthetic pulp, but the Peoria mill's major production grades will complement the various grades of recycled chipboard, kraft core, and tube stock and waterproof papers, which Ivex produces at its 150-tpd Joliet, Ill., mill, said the company's CEO J.J. McCarty. Ivex also operates 16 paper and plastic packaging converting plants in the U.S. and Canada, which produce a wide variety of industrial, consumer, and disposable packaging. ■

Du Pont expected to buy small Champion mill in Ohio

Du Pont Co. and Champion International Inc. have essentially agreed to the sale of Champion's electronic communications paper mill in Columbus, Ohio. Also included in the deal is a coating and finishing plant located in McKinney, Texas. No value for the purchase has been revealed, and a final sales agreement is being negotiated.

The 17,000-tpy paper mill would be taken over by Du Pont's Industrial Imaging Systems Div., according to John Roberts, a company spokesman. This division makes electronic design stations for packaging advertising, and graphic design, Roberts said. ■

Portals' 2,500-tpy security and currency mill for sale

Portals Inc., a paper mill in Hawkinsville, Ga., with capacity for 2,500 tpy of security and currency papers on one machine, is being sold by its parent, Portals Papermaking Ltd. of the U.K. The mill has not operated for two years.

The exclusive producer of currency paper for the U.S. government is Crane & Co. Inc. of Dalton, Mass. ■

Nocopi disputes with Rolland over distribution

Nocopi International Inc. has cancelled contracts with Rolland Inc. that called for Rolland to distribute and promote Nocopi's paper products, which produce unreadable photocopies. Nocopi intends to file suit against Rolland, alleging that Rolland did not buy US$1.3 million worth of Nocopi paper by Dec. 31, as stipulated by a contract. Nocopi also says that Rolland failed to provide adequate funds to promote its paper in North America. Rolland says that it has honored the distribution contracts and that it intends to contest any lawsuit, while continuing to market and sell Nocopi paper.

Nocopi paper is a reddish color and produces unreadable copy when photocopied. Nocopi will now reportedly set up its own dealer network to serve niche markets in Canada and the U.S. It is also selling the paper in western Europe, New Zealand, Australia, and Argentina. ■

CONSUMPTION OF PIGMENTS CONTINUES TO BE DRIVEN BY NEED FOR OPACITY

Industrial mineral and chemical market specialist discusses grades and paper industry consumption, sees major consumption trends

Currently, papermakers are able to select from a myriad of new mineral and chemical choices. To analyze the supply and demand picture for these materials, *Pulp & Paper* recently interviewed industry expert James J. Fallon, president of Fallon Research Associates Inc., New Providence, N.J. In particular, Fallon was asked to explain some of the changes and present some of the opportunities for the paper and industrial mineral industries. Fallon Research Associates is a market research and business development consulting company that has specialized in sophisticated raw materials used by a broad range of consuming industries, especially the paper industry. The company has produced multi-client reports on TiO_2, kaolin, $CaCO_3$, and other industrial minerals. Before forming Fallon Research Associates Inc., Fallon worked for 14 years with Engelhard Corp.

P&P: *What was the market value of industrial minerals consumed by the paper industry last year, and what do you see for the future?*

Fallon: Industrial minerals, including $CaCO_3$, kaolin, salt, sodium, talc, and other minor minerals, totaled 5 million tons (worth $460 million) in 1987. By 1993, the industry should be consuming 5.7 million tons (worth $650 million). This does not include TiO_2, which we consider a synthetic chemical.

P&P: *What were the most important of these minerals?*

Fallon: The most important minerals were what we call the pigmentary minerals, including TiO_2, kaolin, ground $CaCO_3$, and precipitated $CaCO_3$. Talc is used for pitch control and would not be included here.

P&P: *Having now identified the important minerals, how would you describe their consumption?*

Fallon: As illustrated in Table 1, consumption of all these minerals in 1988 (by the paper industry) will be worth $805 million, which will increase to $1 billion in 1993. TiO_2 is almost even with kaolin in dollar value consumed. By 1993, kaolin will exceed TiO_2. Both ground and precipitated $CaCO_3$ use are of the same order of magnitude now ($35 and $40 million, respectively). Precipitated use will be higher than ground use—$70 million to $55 million, respectively.

P&P: *What is the reason for these trends?*

Fallon: There are many crosscurrents in the selection of mineral pigments by grade of paper and board and furnish—groundwood and free-sheet. In the printing and writing segment, mineral pigments in their function of filling and coating differ with respect to their growth rates (Table 2). Regarding TiO_2, the U.S. has depended heavily on imported anatase, which has been the favored pigment in papermaking. Consumption of anatase from offshore and domestic sources will decline as a filler and even more strongly in coating use. The soft dollar makes imports more expensive. And there is more opacity per dollar in slurry rutile. This pertains only to free-sheet, since only small amounts are used in groundwood. These uses will remain unchanged.

Regarding kaolin, four general commercial grades of kaolin are used today (water-washed, delaminated, calcined and air float). No change is seen for air float used in free-sheet and groundwood.

Calcined kaolin is the new superstar of the industry. It had been used as a filler in free-sheet but more recently has gained acceptance in coating formulations. Application as filler in groundwood and in coated groundwood for catalog, directory (such as the *Yellow Pages*), and other publication grades could be a prosperous market for calcined kaolin. Ground and precipitated $CaCO_3$ are a threat to the kaolin filler business in alkaline conversions. The kaolin industry will succeed in developing ways to use kaolin with $CaCO_3$.

Regarding ground $CaCO_3$, regular grinds of $CaCO_3$ (i.e., 2+ microns) are used only in certain applications in coated board. The consumption pattern will not

TABLE 1: **U.S. paper industry trends in mineral pigment consumption, 1988-93—printing and writing papers.**

Mineral	1988	1993
Titanium dioxide	370	405
Kaolin	360	515
Calcium carbonate (ground)	35	55
Calcium carbonate (precipitated)	40	70
Total	**805**	**1,045**

Freight on board, producers plant, all 1988 dollars.
Source: Fallon Research Associates Inc.

change for either groundwood or free-sheet. Ultrafine grinds continue to succeed in alkaline systems producing free-sheet. This $CaCO_3$ will tend to replace kaolin in these applications. But this type of $CaCO_3$ is also treated by satellite $CaCO_3$ plants. Nonetheless, we expect moderate growth in use of ultrafine $CaCO_3$ in filler and coating applications.

As for precipitated $CaCO_3$, the prospects for $CaCO_3$ plants that are remote from the paper mills are not as bright as for the satellite plants. There will be an impact on remote plants over the next five years. Satellite plants are doing very well. Four of them are now in operation or in the planning stages in the U.S. These should supply suitable filler grades for nearby mills, and coating grades will be available as well. Satellite plants do have a negative effect on consumption of ground $CaCO_3$ and kaolin.

P&P: *Of the four commodities you discussed, which ones seem to be the most promising?*

Fallon: If I could put a company together, I would select a product mix with slurry rutile, calcined kaolin with satellite $CaCO_3$ plants producing precipitated grades. The largest annual growth rates in the printing and writing papers area over the next five years will be in those three grades. The other commodities may do moderately well, and still others will have difficulties.

P&P: *What commodities would you least want to produce for the paper industry?*

Fallon: At the present time, although there may be opportunities in the future, the ground $CaCO_3$ business. It could be a more profitable business than it is, but price cutting and overcapacity have reduced its potential. However, a $CaCO_3$ plant in the right location could produce good profits.

TABLE 2: **U.S. paper industry mineral pigments consumption, 1988-93 (in US$000, figures are approximations)—printing and writing papers and coated board.**

	Groundwood		Free-sheet	
Mineral	**Filler**	**Coating**	**Filler**	**Coating**
Titanium dioxide				
Anatase, imported	No change	No change	Decrease	Decrease
Anatase, domestic	No change	No change	Increase	No change
Rutile	No change	No change	Increase	No change
Kaolin				
Water-washed	No change	Increase	No change	Increase
Delaminated	No change	Increase	No change	No change
Calcined	Increase	Increase	Increase	Increase
Air Float	No change	No change	No change	No change
Calcium carbonate, ground				
Regular	No change	No change	No change	No change
Ultrafine	No change	No change	Increase	Increase
Calcium carbonate, precipitated				
Remote	No change	No change	No change	No change
Satellite	No change	No change	Increase	Increase

Source: Fallon Research Associates Inc.

P&P: *What technological changes in the paper industry would benefit the pigments business?*

Fallon: We have already seen that adaptation to alkaline sizing by the fine paper or free-sheet segment has created opportunities for $CaCO_3$ in filler and coating applications. But this is a drop in the bucket compared with what the opportunities would be if the groundwood industry went alkaline. Technical problems make this almost impossible, but with alkaline sizing comes stronger fiber-to-fiber bonding and hence the possibility of using more filler. If U.S. partial alkaline production of groundwood papers or total application for free-sheet occurs by 1995, this would more than double the market for $CaCO_3$ and kaolin and perhaps add some impetus to the TiO_2 business.

P&P: *What is the most valuable property of these mineral pigments?*

Fallon: It would seem as though brightness has reached the limit and has satisfied everyone's expectations. There are high-brightness kaolin products, $CaCO_3$ is inherently bright, and TiO_2 has high brightness. Consumers have many choices if they are only seeking 90 GE. The products that customers pay the most for are ones with high opacity. That is the major contribution of TiO_2. Nothing except calcined kaolin has even partially replaced it for this application. If $CaCO_3$ had 90% opacity in addition to 95 GE brightness, it would take over the industry.

P&P: *What impact have machinery manufacturers had on coating formulations?*

Fallon: Many people do not realize the simplicity of this relationship. If you get a speed increase, capacity rises. You reduce the need for major capital projects (i.e., for new machines). Now, having said that, as the speed increases, viscosity of the coating becomes the critical factor. If the viscosity gets too high, there will be no "spreading" or penetration. You must have a coating with low viscosity and high solids. The chemists working for the mineral companies must try to produce a coating with low viscosity and high solids to increase machine speeds. If an 85% solids coating can be produced with a water-like viscosity, there is no predicting just how high machine speeds can go.

P&P: *What about the impact of polymers on the market?*

Fallon: When suppliers first shipped plastic pigments to the paper industry, they sold them as lightweight, bright, and opacifying agents for a broad range of grades. Their major target market was TiO_2 consumers. However, operating experience showed something they did not expect. They were producing sheets with a high gloss (a property the papermakers could sell to end users), especially for grades such as supercalendered papers. The images produced from these sheets were much better than what had been achieved before. ■

COATED PAPERMAKERS LOOK FORWARD TO CONTINUED GOOD TIDINGS IN 1988

Strong demand is helping absorb 800,000 tpy of new capacity as analysts soften their earlier forecasts of an economic recession

By ROB GALIN, News Editor

Coated paper markets are expected to remain relatively strong for the next several years as demand continues to absorb new capacity. Industry analysts suggest that operating rates at coated mills probably will average from 89% to 93% in 1988 and 1989.

These healthy markets may allow producers to raise prices beyond the high levels set in 1984 and 1985.

Demand for coated free-sheet papers appeared to be tapering off slightly at the end of the first quarter, prompting some mills to drop allocation programs on a few grades. This does not mean that the coated free-sheet market is weak, merely that it is loosening a bit. Prices have remained strong.

Producers of coated groundwood papers continue to benefit from an improving magazine market and a very healthy commercial printing sector. Magazines reported selling 3.1% more advertising pages in 1987 than in 1986, the Publishers Information Bureau said.

MILL SHIPMENTS RISE TO RECORD HIGHS. In 1987, U.S. mills increased shipments of all coated papers by 9.7% from 1986, to a record 6.87 million tons, the American Paper Institute reported. One mill source indicated that the strongest growth occurred in Nos. 1, 3, and 4 free-sheet grades, with some positive growth in No. 2. In the coated groundwood area, shipments of No. 5 rose about 7% in 1987, while No. 4 jumped 18%.

The API attributed the overall strength to increased orders from publishers of direct mail and newspaper inserts. Other strong growth areas reportedly include periodicals other than magazines, as well as converting grades. Areas of relatively small gains include book publishing and magazines, the mill source said.

New orders for coated grades rose 11.6% above 1986, and current allocation programs are mirrored in the tally of unfilled orders, which were up 48.4% from the previous year, according to the API.

Strong domestic demand also helped increase coated imports by 22.4% for 1987 compared to 1986, according to Dept. of Commerce figures. The beneficiaries of this demand primarily were the Canadians, who increased shipments to the U.S. more than twofold. Mills in Finland and Fed. Rep. Germany also increased sales to the U.S.

At the same time, the favorable dollar exchange rate boosted coated exports by almost 28.9%. Sources said that Canada imported over 50% more coated free-sheet paper in 1987 than in 1986.

Although coated paper shipments in Canada are not broken out by the Canadian Pulp & Paper Assn., one estimate put total coated paper capacity at 295,000 short tons in 1985, 400,000 in 1986 (not including Repap Enterprises' new machine), and 635,000 tpy by 1989. These figures include C1S bristol stock. Operating rates probably were in the high 80s or low 90s for the year.

Demand was met by the nearly 1 million tpy of new capacity brought online in North America in 1986 and 1987. This new tonnage, the anticipation of which caused severe price erosion in 1986 and early 1987, was soon absorbed by the markets, and mills were able to lift prices on all grades in the second half of 1987 and early 1988.

AVAILABILITY IMPROVES. Availability of both coated free-sheet and groundwood grades had improved slightly by the end of 1988's first quarter.

Magazine publishers reportedly built up inventories, as is normal that time of year, one mill source said.

In addition, catalog publishers are benefiting from a strong season and ordered paper in the first quarter in order to print and mail their pieces in advance of a mid-year mail rate hike.

With this strong market, an Apr. 1 pulp price increase, and the announced Apr. 1 price hikes for competing grades of uncoated groundwood papers, coated groundwood producers may feel the pull to raise prices. Several papermakers said that if an increase is announced, it probably would be implemented mid-year. Such a hike would raise prices beyond 1985 highs.

OUTLOOK FOR COATED GRADES. For the balance of the 1980s, overall coated paper demand probably will continue to grow somewhat above the real GNP.

Use of coated groundwoods by 98 of the most important magazine publishers in 1987 was estimated to be about 72% of total paper used, slightly higher than the 71.7% in 1986. Coated free-sheet paper may regain some lost ground, accounting for 10.6% of all paper consumed in 1987, after falling to 10.1% in 1986 from a higher rate of 10.8% in 1985. Magazine publishers consumed about 2.6 million tons of coated paper in 1987, sources said.

The catalog business also has been growing rapidly. Demand for catalogs increased 56% in 1986 from 1985, according to the Direct Marketing Assn. Simmons Market Research said that 51.2% of the U.S. population (87.7 million Americans) shops by mail, a 15% increase from 1985. Actual catalog production rose 18% in 1986, representing 11.8 billion pieces from about 6,500 publishers. Demand for coated papers for catalogs could reach over 2 million tons by 1990.

About 300,000 tpy of coated paper went into the book market in each of the years from 1984 to 1987. Book publishers purchased about 5.5% more coated stock in 1987 than they did in 1986. Total shipments of paper to book publishers grew 11.8%. Demand may grow as much as 5%/year for the remainder of the decade.

The other major market is commercial printing, with 2.9 million tons of coated paper going into that sector in 1987. Commercial printing uses about 40% of all coated paper production.

Included in that market are direct mail flyers and newspaper advertising inserts. It is estimated that the number of preprinted newspaper inserts are growing 5% to 7%/year, with coated paper usage for inserts to rise from about 400,000 tons in 1986 to 600,000 in the following four years. The rest of the approximately 2 million tons of insert paper is newsprint or uncoated groundwood grades.

Analysts predict that the coated free-sheet operating rates in 1988 will remain a healthy 92% to 95%, which is approximately the same as in 1986 and 1987. Output of coated free-sheet from U.S. mills rose about 10.8% in 1987 from the previous year, up from 1.7% growth in 1986. Growth in 1988 may be around 6.5%. Almost 3.1 million tons of coated free-sheet papers were shipped in 1987.

Coated groundwood production increased about 8.8% in 1987 from 1986, and analysts predict another 4.6% increase in 1988. Operating rates were 91.6% in 1986 and 1987 and may hit as high as 94% in 1988, though most analysts predict lower rates.

It is expected that demand for coated papers in the 1990s will be healthy, jumping to somewhere near 10 million tons in the U.S. alone. Canadian demand will reach several million tons. This means that imports into the U.S. will rise as well, with Scandinavia, Fed. Rep. Germany, and Canada serving as the major suppliers. Canada is also going to receive imports from Europe, Scandinavia, and the U.S.

The coated paper industry has recognized that one of the major threats to coated paper is supercalendered (SC) paper. The premium SC papers usually are offered for sale at around $100/ton less than lightweight coated paper. Other threats to the coated papers come from high-brightness uncoated groundwoods as well as from the new lightly pigmented Scandinavian grades that reportedly fall between SC and coated groundwood. ■

TABLE 1: **New North American coated paper capacity through 1990.**

Company	Location	Annual short tons	Startup
Westvaco[1]	Luke, Md.	150,000	1984–88
Bowater	Catawba, S. C.	200,000	1986
Consolidated Papers	Wisconsin Rapids, Wis.	200,000	1986
S. D. Warren/Scott Paper	Somerset, Maine	215,000	1986
International Paper	Pine Bluff, Ark.; Jay, Maine; Mobile, Ala.	300,000	1986
Champion International	Sartell, Minn.	175,000	1986
Dunn Paper[2]	Port Huron, Mich.	no increase	1987
Fraser Paper Ltd.	Madawaska, Maine	n.a.	1987–89
Mead	Escanaba, Mich.	no increase	1987
Simpson Paper	Pasadena, Texas	n.a.	1987–90
Midtec Paper/Repap Enterprises[3]	Kimberly, Wis.	205,000	1988
S. D. Warren/Scott Paper	Muskegon, Mich.	n.a.	1988
S. D. Warren/Scott Paper	Westbrook, Maine	n.a.	1988
Blandin Paper	Grand Rapids, Minn.	254,000	1989
Potlatch	Cloquet, Minn.	no increase	1989
Champion International	Bucksport, Maine	n.a.	1989
Champion International	Quinnesec, Mich.	265,000	1990
Weyerhaeuser Paper Co.	Columbus, Miss.	n.a.	n.a.
Company, Canada		**Annual metric tons**	
Repap Enterprises	Newcastle, N. B.	190,000	1986
Kruger[4]	Trois Rivieres, Que.	77,000	1986
Makin Pulp & Paper[5]	Britannia Beach, B. C.	58,000	1987
Repap Enterprises	Newcastle, N.B.	190,000	n.a.

n.a. = not available
1. Incremental additions
2. Division of James River Corp.
3. 100,000 tpy net
4. New coater to use paper from existing paper machines.
5. Combination of coated and uncoated free sheet.
Source: *Pulp & Paper Week, Pulp & Paper Project Report.*

U.S MILLS' WASTEPAPER CONSUMPTION TO GROW 7.3% THROUGH 1990, API SAYS

Survey shows that old newspapers, OCC, and mixed paper will be very much in demand as new waste-based mills come onstream

By REGINA McGRATH, News Editor

Between 1988 and 1990, U.S. paper and board mills' consumption of recyclable paper is expected to grow 7.3%, from 20.05 million short tons to 21.52 million tons, according to the capacity survey recently released by the American Paper Institute. Wastepaper consumption in 1987 (including use in molded pulp products and construction grades) reached 19.6 million short tons by year-end.

The fiber mix at U.S. mills is not expected to change appreciably through 1990. Approximately 55% of the fiber consumed by paper and board mills will be secondary fiber, and 45% will be primary fiber (100% virgin woodpulp). In the secondary fiber category, however, recyclable paper consumption will increase by about a percentage point, to 25.4% of the total fiber consumed, the API reports.

Mills in the U.S. are continuing to consume more old corrugated containers (OCC) than any other grade of wastepaper. The API projects that U.S. mills will consume approximately 9.8 million tons of OCC in 1988, and consumption is expected to increase by 7.7% to 10.5 million tons by 1990. The API attributes part of this increase to the fact that more producers of unbleached kraft linerboard are planning to use corrugated container waste in their furnishes. By 1990, unbleached and bleached kraft board mills are expected to consume in the area of 2.46 million tons of corrugated container waste.

For the first half of 1988, containerboard mills are expected to run near capacity, fueling demand for OCC and new double-lined kraft corrugated clippings. In the long term, U.S. capacity for unbleached kraft linerboard is expected to grow by 6.2% between 1988 and 1990, although corrugating medium (both semichemical and recycled) will show slower growth. Tight markets for virgin grades is stimulating interest in recycled containerboard. International Paper Co. is studying possible reactivation of the idle Durham recycled containerboard mill in Riegelsville, Pa., using "world-class recycling technology not currently available in the U.S."

Growth in recycled paperboard capacity will be marginal—inching up 0.9% between 1988 and 1990. Recycled paperboard mills will consume 54% of the corrugated waste by 1990—a decrease of about 2% from 1988. These mills also consume about 74% of the mixed paper waste in the U.S. Total U.S. consumption of mixed paper is expected to grow 3.8% between 1988 and 1990 to 2.15 million tons.

Demand for old newspapers will grow more than any other grade. Between 1986 and 1987, consumption at U.S. mills increased 13.4% to 3.56 million tons. Prior to this surge in consumption, demand for old newspapers was expected to grow 9.0% between 1988 and 1990, but this may be understating the case in light of the record consumption of 1987 and the fact that several companies expect to start up newsprint machines during the period. These startups include a recycled machine at Southeast Paper Manufacturing Co. in Dublin, Ga., which has already said it will double its consumption of old newspapers. In 1990 newsprint mills will consume about 44% of all the old newspapers in the

TABLE 1: **Wastepaper consumption at U.S. paper and board mills increased 9.7% in 1987, while collections rose by 11%.**

	Consumption at U.S. paper and paperboard mills[1]	% change (1986-87)	Exports	Total collected
News	3,560,300	13.3	870,240	4,430,540
Corrugated	9,298,900	7.1	1,921,679	11,220,579
Mixed	2,101,100	3.6	738,104	2,839,204
High grade	4,656,500	15.4	892,313	5,548,813
Total[2]	**19,616,800**	**9.7%**	**4,422,338**	**24,039,136**

1. Includes consumption at plants making molded pulp and insulation products.
2. All totals in short tons.
Source: American Paper Institute.

U.S., while recycled paperboard mills will consume about 40.1%. This compares with projections of 42.4% and 41.8%, respectively, for 1988.

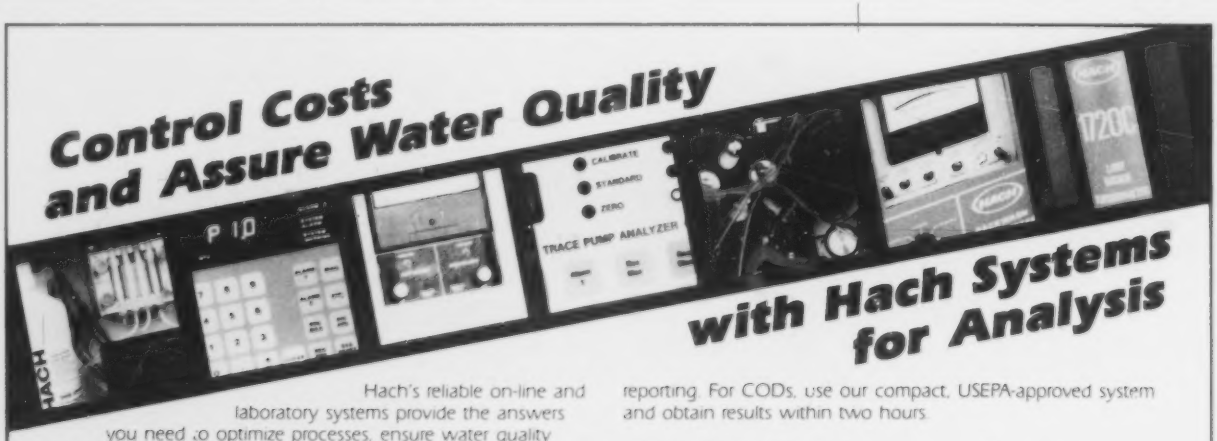
Consumption of pulp substitutes is expected to grow by 5.5% between this year and 1990, rising from 3.0 million tons to 3.2 million tons. During the first quarter of this year demand for pulp substitutes is expected to increase since more mills will use this grade in their furnish rather than buy increasingly expensive market pulp. By 1990 printing/writing paper mills will consume about 33.5% of the pulp substitute grades; tissue mills, 24.9%; and recycled board mills, 28.6%. This compares with 34.1%, 24.0%, and 28.3%, respectively, in 1988.

The API estimates that U.S. mills will consume about 1.8 million tons of deinking grades this year. Consumption is projected to increase by 3.8% to 1.9 million tons by 1990. In 1990 tissue mills are projected to consume about 64.6% of the high-grade deinking stocks. However, this does not include Wisconsin Tissue Mills Inc.'s recently announced plan to increase its capacity for recycled tissue by 80,000 tpy (*P&P*, Jan. 1988, p. 33). Nor does it appear to include Fort Howard Corp.'s third recycled tissue machine at its Savannah River mill in Rincon, Ga., which is scheduled to come onstream in late 1989. The company is also applying for a permit for a recycled tissue machine at its Green Bay, Wis., mill.

EXPORT DEMAND STRONG. The weak dollar and high pulp prices boosted exports of U.S. wastepaper last year, which totaled 4.4 million tons—an 18% increase over 1986. This year, paperstock exports are expected to reach at least 4.5 million tons. Most wastepaper suppliers anticipate a strong export market, at least during the first half of this year. Pulp substitute exports will be strong as more offshore mills trade down to these grades because of the Jan. 1 price increase on market pulp.

At a meeting held toward the end of last year by western Europe's Bureau International de Recuperacion (BIR), most country representatives predicted strong markets for the first part of this year. One of the main concerns is that Fed. Rep. Germany is said to subsidize waste haulers to encourage household recycling. The European Economic Community may investigate these subsidies as a result of a complaint filed by the BIR.

This is of concern to U.S. paperstock exporters because Fed. Rep. Germany is beginning to step up its exports to the Far East. The main importers of U.S. wastepaper are Rep. Korea and Taiwan, with Japan playing a lesser, but significant, role. ■



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